

CLAIMS

1. Gas supply arrangement (1) of a marine vessel (6) being adapted to carry liquefied gas in its cargo tank (4) having an ullage space section (4.1) and a liquid phase section (4.2), and to utilise the cargo as fuel to provide power for the vessel, the arrangement comprising
- 5 - a first gas supply line (2), which connects an ullage space section (4.1) of the cargo tank (4) and a gas main supply line (7) and which is provided with a compressor (2.1) for raising the pressure of the gas to an adequate level,
- 10 - a second gas supply line (3) which connects liquid phase section (4.2) of the cargo tank (4) and the gas main supply line (7) and which is provided with at least a pump (3.1) for raising the pressure of the liquid gas and for pumping it forward, **characterised** in that the second gas supply line (3) is provided with a gas reservoir (3.2) having an ullage space section (3.3) and liquid phase section (3.7), which
- 15 reservoir (3.2) is connected to the liquid phase section (4.2) of the cargo tank by a first duct section (3.4) of the second gas supply line (3) and to the gas main supply line (7) by a second duct section (3.4) of the second gas supply line (3).
2. Gas supply arrangement (1) according to claim 1, **characterised** in that, the reservoir (3.2) is provided with temperature control unit (3.6).
- 20 3. Gas supply arrangement (1) according to claim 2, **characterised** in that the temperature control unit (3.6) of the reservoir (3.2) comprises adjustable heating device (3.9, 3.9') for heating the liquid phase gas in the reservoir (3.2).
4. Gas supply arrangement (1) according to claim 1, **characterised** in that the reservoir (3.2) is provided with surface level control arrangement (8) for controlling
- 25 the surface level of the liquid phase section (3.7).
5. Gas supply arrangement (1) according to claim 2, **characterised** in that the heating device (3.9, 3.9') is provided with control device (9, 9.1) responsive to the gas pressure in the reservoir (3.2).

6. Gas supply arrangement (1) according to claim 5, **characterised** in that the heating device (3.9, 3.9') is provided with a heat exchanger external to the reservoir (3.2) being in connection with the liquid phase section (3.7) of the reservoir by piping (3.10).
- 5 7. Gas supply arrangement (1) according to anyone of the preceding claims 1 - 5, **characterised** in that the reservoir (3.2) is dimensioned to have a volume corresponding to few hours gas consumption through the gas main supply line (7).
8. Gas supply arrangement (1) according to claim 1, **characterised** in that the first duct section (3.4) of the second gas supply line (3) extends into a liquid phase section (3.7) of the reservoir (3.2), and that the second duct section (3.5) of the second
10 gas supply line (3) extends from the ullage space section (3.3) of the reservoir (3.2) to the gas main supply line (7).
9. Gas supply arrangement (1) according to claim 1, **characterised** in that the second duct section (3.5) of the second gas supply line (3) is provided with an
15 automatically controlled closing valve (3.13).
10. Gas supply arrangement (1) according to claim 1, **characterised** in that the liquid phase section (3.7) of the reservoir (3.2) and the cargo tank (4) are connected with each other with a return line (3.14) provided with a valve (3.15).
11. Method of controlling gas pressure in a gas supply arrangement of a marine
20 vessel (6) with liquefied gas cargo tank (4) having an ullage space section (4.1) and liquid phase section (4.2), and a gas consumption device (5), in which gas from the cargo tank (4) is led to the consumption device (5) via a first gas supply line (2) which is provided with a compressor (2.1), the compressor raising the pressure of the boil-off gas to an adequate level, and additionally or alternatively via a
25 second gas supply line (3), which connects liquid phase section (4.2) of the cargo tank (4) and the gas the gas consumption device (5), the second gas supply line (3) being provided with a pump (3.1) for raising the pressure of the liquid gas and pumping it forward, **characterised** in that in the second gas supply line gas is fed

into a reservoir (3.2) having an ullage space section (4.1) and liquid phase section (4.2), in which reservoir (3.2) the gas is temporarily stored and from which gas is introduced to the gas consumption device (5).

12. Method of controlling gas pressure according to claim 11, **characterised** in
5 that the pressure of the gas in the in the second gas supply line (3) is controlled by controlling the temperature (9,9.1,3.6) of the liquid phase section (3.7) of the reservoir (3.2).